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LORD & THOMAS, NEWSPAPER
Advertising, 45 to
49 Randolph St., Chicago, keep this paper on file
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ADVERTISERS.

A. BLOEDEL,
Manufacturing
Jeweler & Diamond Setter,
Dealer in
WATCHES, CLOCKS, JEWELRY,
Silver and Plated Ware.
Special Attention Given to Repairing.
No 106 GRAND AVE.,
Cor. West Water St.,
MILWAUKEE, WIS.

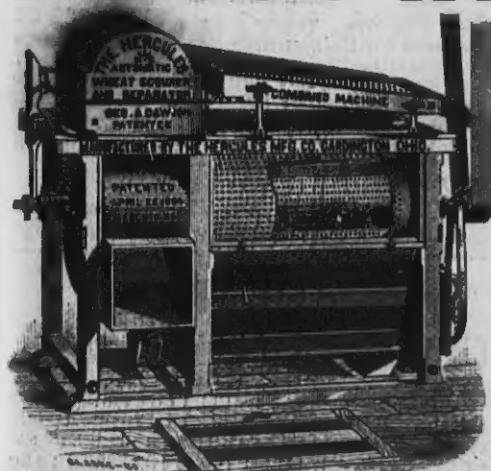
OUR
BUCKETS
ARE NOT
COMMON CHEAP
ONES
BUT ARE
FIRST CLASS
ELEVATOR
BUCKETS
IN EVERY
RESPECT

SALEM
BUCKETS
THORNBURG & CO.
GENERAL AGTS. CHICAGO
W. J. CLARK & SONS
SALEM, OHIO

THEY WERE
AWARDED
FIRST
PREMIUM
AT THE
MILLERS'
INTERNATIONAL
EXHIBITION
CINCINNATI, O.
1880.

[Please mention this paper when you write to us.]

DO YOU WANT CLEAN WHEAT?



THE
HERCULES
Automatic Wheat Scourer and Separator.

Warranted to improve the **COLOR** and **VALUE** of flour in any mill. Anti-Frictional, Light Running and the only **AUTOMATIC WHEAT SCOURER** ever invented. Adjusts itself while in motion to the volume of wheat fed to it and requires no attention but oiling. Awarded **GOLD MEDAL** and highest honors at the late **WORLD'S FAIR, NEW ORLEANS**. Machines sent on 60 days trial and satisfaction guaranteed or no pay. Write for Circulars, Testimonials and Samples of Cleaned Wheat and Scourings.

THE HERCULES MFG. CO., Cardington, Ohio.

IT HAS INCREASED OUR TRADE.

THE HERCULES MANUFACTURING CO., Cardington, Ohio.

Gentlemen:—We like the "Hercules" machine very much indeed. It has increased our trade, and we will buy another for our other mill in the Spring. It certainly is the best Scourer we know of.

[Mention this Paper when you write.]

SCHREURS BROS.,
PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
Muscatine, Iowa, December 9th, 1885.

Yours Respectfully,
SCHREURS BROS.

CAWKER'S AMERICAN FLOUR MILL DIRECTORY FOR 1886-7

ISSUED FEBRUARY, 1886. PRICE, \$10.00.

PUBLISHED EVERY TWO YEARS. SENT BY MAIL, REGISTERED AND POST-PAID. EVERY

Mill Furnisher, Flour Broker, Transportation Company, Insurance Company,
FLOUR IMPORTER, MERCHANT MILLER,

Or anyone desiring to reach those connected with the **FLOURING INDUSTRY**, should order this Book at once.

E. HARRISON CAWKER, NO. 124 GRAND AVENUE, MILWAUKEE, WIS.

BELLAS, PATTON & CO., Commission Merchants

3 INSURANCE EXCHANGE BLDG.,
218 La Salle St., CHICAGO.

GRAIN AND PROVISIONS

Bought or sold for shipment, or carried on margins.
Market Reports furnished to correspondents.

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J. O. Mathewson & Co.,
GENERAL
COMMISSION
MERCHANTS,
AUGUSTA, - GEORGIA.

E. B. OWENS & CO.,
Provisions and Grain
BALTIMORE, MD.

Sell on Track West and to Arrive.
Fine Storage Cellars for Meat and Lard.
Handle all kinds of Grain.
Liberal Advances on Consignments.

REFER TO Western National Bank, Baltimore; Citizens' National Bank, Baltimore; Wm. Ryan & Sons, Dubuque, Iowa; Whitmore Bros., Quincy, Ill.; Bloomington Pork Packing Co., Bloomington, Ill.

L. EVERINGHAM & CO.,

(ESTABLISHED 1865.)

Commission Merchants

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Opposite New Board of Trade, CHICAGO

THE PURCHASE AND SALE OF
GRAIN AND PROVISIONS
On the Chicago Board of Trade.
For cash or future delivery, a specialty.

Special information, indicating course of markets,
freely furnished upon request.

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GRIFFITHS, MARSHALL & CO.,
Grain - Commission
MINNEAPOLIS AND DULUTH, MINN.

Orders for Choice Milling Wheat Given Special
Attention.

FLOUR :: BROKERS

MILLERS DESIRING TO SELL FLOURS BY SAMPLE in car lots in the cities of Baltimore, Md., or Washington, D. C., should communicate with P. H. HILL, Millers' Agent, WASHINGTON, D. C., and for Philadelphia, Pa., communicate with HILL & SCHAAP, Millers' Agents and Grain Brokers, 219 North Broad St., PHILADELPHIA, PA. Highest references.

SAM'L E. DUNHAM & CO.,
COMMISSION
Provisions and Grain

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Board of Trade, CHICAGO.

The purchase of grain for shipment to home markets
a specialty.

N. S. CLARK.

A. C. MARTIN.

CLARK & MARTIN,
Commission Merchants
FLOUR, GRAIN,
FEED AND HAY,
No. 61 West Second St., Cincinnati, O.

PATTERSON BROS. & CO.,
Commission Merchants

FOR SALE OF

WHEAT, CORN, OATS, RYE.

DEALERS IN

Seeds, Hominy, Grits, Steam Dried Corn Meal.

44 VINE ST., CINCINNATI.

ORDERS AND CONSIGNMENTS SOLICITED.

ESTABLISHED - - - - - 1876.

JNO. R. TURRENTINE,
-GENERAL-

Merchandise and Produce Broker,

FLOUR, GRAIN, HAY AND RICE.

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First Nat'l Bank, Hall & Pearsall, Adrian & Vollers,
Merchants, Wilmington; Robt. Carey & Co., New Orleans, La.; Geo. P. Plant & Co., St. Louis, Mo.; Martin
& Bennett, Chicago, Ill.

Solicits Orders for Carolina Rice and Peanuts.

OWEN & BRO.,
Commission Merchants,

36 Chamber of Commerce, MILWAUKEE.

We give special attention to the purchase and sale
of grain or provisions, for future delivery, here or
in other markets.

Information regarding the present condition and
future outlook for prices furnished on request.

OWEN & BRO.

S. S. STOUT.

H. G. UNDERWOOD.

STOUT & UNDERWOOD,

(Formerly Examiners U. S. Patent Office.)

SOLICITORS OF

PATENTS

66 Wisconsin Street,

MILWAUKEE, WIS.

TELEPHONE NO. 596.

Life Insurance. New England Mutual

LIFE INSURANCE CO.
OF BOSTON.

Assets, - - - - - \$17,846,546.65
Liabilities, - - - - - \$15,288,761.16

Total Surplus, - - - - - \$ 2,607,785.49

BENJ. F. STEVENS, Pres't.
JOSEPH M. GIBBENS, Sec'y.

BOILER INSURANCE.

AMERICAN

Steam Boiler Insurance Company

OFFICE, 45 WILLIAM ST., NEW YORK.
Cash Capital, - - - - - \$200,000

ASSETS JANUARY 1st, 1886.
U. S. Gov. Registered Bonds, of which \$100,000 is lodged with the Insurance Department at Albany, N. Y. - - - - - \$316,188.00
Cash in bank and in office - - - - - 10,688.72
Premiums in course of collection - - - - - 16,839.35

LIABILITIES.
Reinsurance reserve - - - - - 40,225.00
All other demands - - - - - 2,013.27

\$ 43,149.24

WILLIAM K. LOTHROP, President.
WILLIAM E. MIDGLEY, Vice-Pres.
VINCENT R. SCHENCK, Secretary.

Fire Insurance.

Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

CONNECTICUT

FIRE INSURANCE CO.,

HARTFORD, CONNECTICUT.

Cash Capital, - - - - - \$1,000,000 00
Reserve for Reinsurance, - - - - - 580,869 40
Outstanding Claims, - - - - - 90,896 57
Net Surplus, - - - - - 303,683 78

Total Assets, Jan. 1, 1886, - - - - - \$1,974,749 75
Surplus to Policy-holders, - - - - - \$1,303,683 78

J. D. BROWNE, President,
CHARLES R. BURT, Secretary.
L. W. CLARKE, Ass't Secretary.

Attention! CUSTOM and EXCHANGE MILLERS.

We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada. Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.



The "HOPEWELL" TURBINE Water Wheel

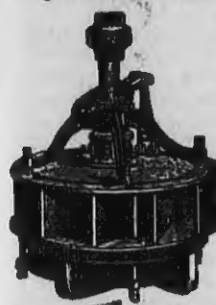
IS THE BEST.

For full particulars address

A. J. HOPEWELL,

EDINBURG, VA.

Improved + Walsh + Double + Turbine



This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

B. H. & J. SANFORD,

Phenix Iron Works,

Sheboygan Falls, Wis.

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This binder is suitable for binding your copies of the UNITED STATES MILLER for two or more years, any required number can be taken out without disturbing its contents. Binders made for all Publications, for binding Music, etc.

ITS EQUAL CANNOT BE FOUND.

Send post paid for \$1.10. Address

UNITED * STATES * MILLER,
MILWAUKEE, WIS.

Flint & Pere Marquette R. R.

LUDINGTON ROUTE.

Fast Freight & Passenger Line.

Freight Contracted on through Bills Lading

to all points in

Michigan, Indiana, Ohio,

New York, Pennsylvania,

New England & Canada.

AT LOWEST RATES.

All freight insured across Lake Michigan. Passengers save \$2.75 to all points East.

Dock and Offices, No. 50 West Water St., one block from Union Depot.

L. C. WHITNEY,

Gen'l Western Agent.

Partner Wanted

FOR THE MANUFACTURE AND SALE OF A

NEW

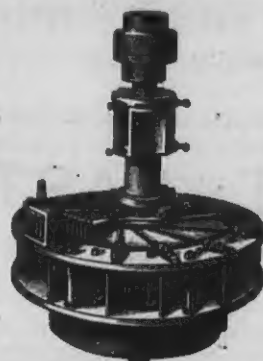
Machine for Flour Mills,

(Patented.)

For the Dominion of Canada.

ADDRESS,

W. K., Post Office Box 30, Young America Minn.



JAMES LEFFEL'S IMPROVED WATER WHEEL,

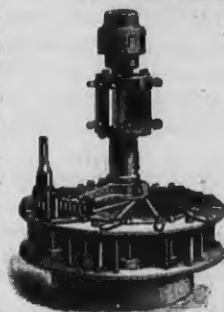
Fine New Pamphlet for 1885.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

JAMES LEFFEL & CO., Springfield, Ohio,

and 110 Liberty St., New York City.

[Please mention this paper when you write to us.]



POOLE & HUNT'S Leffel Turbine Water Wheel

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 30 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.

Mixers and General Outfit for Fertilizer Works.

Shipping Facilities the Best in all Directions.

POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

[Mention this paper when you write to us.]

Marshall Automatic Grain Scale

FOR USE IN

FLOUR MILLS,

BREWRIES,

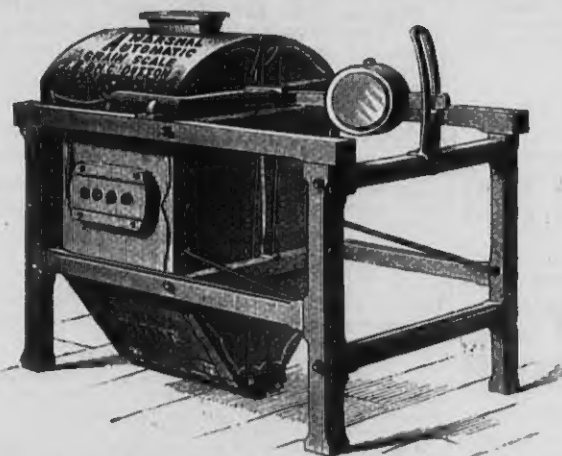
Malt Houses,

ELEVATORS,

Distilleries, & Rice & Mills,

OIL MILLS,

Starch Factories, &c.



This Scale is designed for weighing and registering the amount of grain transferred from one point to another. The weighing and recording is absolutely correct, and the machines are sold with a guarantee to that effect. By their use the miller can tell at any time how much wheat he is using to make a barrel of flour, and know at once whether he is milling at a profit or loss. This scale can be used with equal advantage by shippers of grain or others who desire to know how much grain, flour feed, bran, shorts, screenings, coal (or any other thing that can be spouted), is being transferred, with a perfect record made of same.

J. B. & H. C. DUTTON, Detroit, Mich.

Gentlemen: We have used the Marshall Automatic Grain Scale in our mill for six months, and it has proved entirely satisfactory.

Yours truly,

ELDRED MILLING CO.

J. B. DUTTON & CO., DETROIT, MICH.

No. 52 WOODWARD AVE.

SOLE OWNERS OF THE PATENT.

Also handle a full line of Flouring Mill Machinery.



WILL CURE any case of PILES.

ing. itching, or
Protruding
Never Fails. Cure Guaranteed.
Price per Box, 50 cents and \$1.00.
(Physicians' Fare, for use in their
practice, \$2.50.)

Dr. Williams' Indian Pile Ointment
is sold by all Druggists, or mailed on
receipt of price by the
Williams Mfg Co., Cleveland, O.

[Please mention this paper when you write to us.]

"TRIUMPH" CORN SHELLER

CAPACITY

3000 BUSHELS PER DAY.

Shells wet or dry corn.

CHEAPEST AND BEST SHELLER.

PAIGE MANUF'G CO.,

No. 12 Fourth St., Painesville,



[Please mention this paper when you write to us.]

GOODRICH PASSENGER STEAMERS

TWICE DAILY EACH WAY
—BETWEEN—

Milwaukee & Chicago.

Fare to Chicago \$1 less than by railroad.

Chicago and Racine Line.

Leave	FOR	Arrive at
Milwaukee.....	Chicago.....	Milwaukee.....
7:00 P. M.	5:00 P. M.	
7:00 A. M.	5:00 A. M.	
7:00 P. M.	Racine.....	5:00 P. M.

Fare to Chicago Only \$2.

Round Trips, \$3.50, meals and berths included on first-class tickets.

Sure connections at Chicago with all morning trains for all points East, South and Southwest.

Sheboygan & Manitowee Line.

Daily.*	Leave.	Arrive.
Milwaukee.....	7:00 a. m.	At Milwaukee 4:00 p. m.

Manistee & Ludington Line.

Daily, leave 7 P. M., except Sunday.

Saginaw & Bay City Line, Daily except Sundays.

Leave	Arrive.
Milwaukee.....	At Milwaukee 8:00 a. m.

Making close connections at Ludington with F & P. M. R. R. for Saginaw, Bay City, Detroit, and all points in Northern Michigan and all points East.

Pierport & Frankfort Line.

Leave Milwaukee daily at 7:00 P. M., except Sunday.

Kewaunee & Ahnapee Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays, at 7 A. M.

Menominee & Sturgeon Bay Line.

Tuesdays, Thursdays and Saturdays at 7 A. M.

Green Bay & Escanaba Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays at 7 A. M., touching at Oconto, Menominee, Nahma, Fayette, Depere, and making close connections with railroad at Escanaba for Nequaunee, Ishpeming, Quinnesec, Norway, and all Lake Superior points.

*Mondays. †Sundays.

G. HURSON, Secretary and Agent.
THOS. FORBES, Passenger Agent.

Green Bay, Winona & St. Paul

RAILROAD

IS THE SHORTEST ROUTE FROM

GREEN BAY

and all points in

EASTERN & WISCONSIN

—TO—

NEW LONDON,
STEVENS POINT,
GRAND RAPIDS,
WAUSAU,
MERRILL,
WINONA,
LA CROSSE,
CHIPPEWA FALLS,
STILLWATER,
HUDSON,
EAU CLAIRE.

ST. PAUL, MINNEAPOLIS, &

and all points in MINNESOTA, DAKOTA,
and all points on the

NORTHERN PACIFIC RAILROAD and ST. PAUL,
MINNEAPOLIS & MANITOBA RAILROAD.

Passengers from all points on the CHICAGO &
NORTHWESTERN R.Y., south of Green Bay and
Fort Howard, connect with the

C. B. & St. P. R. R.

—AT—

FORT HOWARD JUNCTION.

They will find it

THE SHORTEST LINE

to all the above points.

THE PASSENGER EQUIPMENT

of this Road embraces all the modern improvements
and conveniences that tend to make traveling by
rail safe and comfortable.

Be sure your tickets read via the

Green Bay, Winona & St. Paul Railroad.

S. W. CHAMPION, General Pass. Agent.

GREEN BAY, WIS.

Detroit, Grand Haven & Milwaukee RAILWAY LINE.

The Shortest, Cheapest and Quickest Route

—BETWEEN THE—

WEST AND EAST

New York, Boston, and all points in Northern
and Eastern Michigan.

COMMENCING MAY 17th,

the Palace Side-wheel Passenger Steamer "City of
Milwaukee," will leave Milwaukee daily, Sundays
included, at 11:45 noon and connect at Grand Haven
with Limited Express Train which leaves at 5:00 P. M.
Time, Milwaukee to New York, 32 hours.

Ticket Office, 99 Wisconsin Street,

—WHERE—

SLEEPING CAR BERTHS

can be secured. Dock, foot of West Water Street.

GEORGE B. REEVES, B. C. MEDDAUGH,

Traffic Manager, West. Pass. Agt.
Chicago. Milwaukee.

W. J. SPICER, Gen'l Manager, Detroit, Mich.

THE CHICAGO AND NORTH- WESTERN RAILWAY.

THE BEST ROUTE AND SHORTEST LINE BETWEEN
Milwaukee, Chicago,
Council Bluffs, and Omaha.

The only line to take from Chicago or Milwaukee to
Freeport, Clinton, Cedar Rapids, Marshalltown, Des
Moines, Sioux City, Council Bluffs, Omaha and all
points West. It is also the

SHORT LINE

Between Chicago, Milwaukee and ST. PAUL OR
MINNEAPOLIS, and the best route to Madison, La
Crosse, Ashland, Duluth, Winona, Huron, Aberdeen,
Pierre and all points in the Northwest.

It is the direct route to Oshkosh, Fond du Lac, Green
Bay, Ishpeming, Marquette and the mining regions
of Lake Superior.

It is the LAKE SHORE and PARLOR CAR ROUTE
between

CHICAGO and MILWAUKEE,
PALACE SLEEPING CARS on night trains.

PALATIAL DINING CARS on through trains between

Chicago and Milwaukee,

Chicago and St. Paul,

Chicago and Council Bluffs,

And Chicago and Winona.

If you are going to Denver, Ogden, Sacramento, San
Francisco, Helena, Portland, or any point in the West
or Northwest, ask the ticket agent for tickets via the
"NORTHWESTERN" if you wish the best accommo-
dations. All ticket agents sell tickets via this line.

M. HUGHITT, Gen'l Manager.
R. S. HAIR, Gen'l Passenger Agent
CHICAGO.

Milwaukee Office, 102 Wisconsin St.

Milwaukee & Northern Railroad.

THE OLD RELIABLE ROUTE.

17 Miles the Shortest Line

—TO—
GREEN BAY,

Fort Howard, Depere, Menasha,
Neenah, and Appleton,
Marinette, Wis., and Menominee, Mich.

—THE NEW ROUTE TO—

New London, Grand Rapids, and all points in
CENTRAL AND NORTHERN WISCONSIN.

The new line to Menominee is now completed, and
opens to the public the shortest and best route to all
points on the Michigan Peninsula.

CONNECTIONS.

AT PLYMOUTH with the Sheboygan and Fond du
Lac Division Chicago & North-Western R'y for She-
boygan and Fond du Lac.

AT FOREST JUNCTION with Milwaukee, Lake Shore
and Western Railway.

AT GREEN BAY with Chicago & North Western and
Green Bay, Winona & St. Paul Railroads, for all
points North and West.

C. F. DUTTON, General Supt.

ASHLAND M.L.S.&W.RY. ROUTE

The Milwaukee, Lake Shore & Western Railway has
been well named the Fishing and Hunting Line of
Wisconsin, passing, as it does, through thousands of
acres of but partially explored woods and within
easy reaching distance of lakes and streams that
have never been fished by white men, all well stocked
with the game fish for which Northern Wisconsin
waters are noted. The woods abound with game;
deer, bear, wolf, mink, beaver, pheasant, and other
game are quite plentiful.

THE ONLY LINE

From Milwaukee to the new Iron Mining District
in Wisconsin and Michigan—Gogebic, Wakefield,
Beaumont, Ironwood and Hurley.

Direct line to ASHLAND and beyond.

Sleeping cars between ASHLAND and CHICAGO.

The GUIDE BOOK, and other descriptive matter,
containing full information, maps and engravings
of the country traversed by the line, will be sent on
application to the General Passenger Agent.

CHAS. A. COLE, Gen. Agent, 105 Washington St.,
Chicago.

Chicago Depot, Cor. Wells and Kinzie Sts., (C. &
N. W. R'y.)

H. F. WHITCOMB,
Gen'l Manager.

CHAS. V. MCKINLAY,
Gen'l Pass. Agent.

MILWAUKEE, WIS.

This space will be occupied by
an advertisement of the

WISCONSIN CENTRAL LINE,

the recognized Popular Route be-
tween Chicago and St. Paul and
Minneapolis.



Owens and operates nearly 5,500 miles of thoroughly
equipped road in Illinois, Wisconsin, Iowa, Missouri,
Minnesota and Dakota.

It is the Best Direct Route between all
principal points in the Northwest, South-
west and Far West.

For maps, time tables, rates of passage and freight,
etc., apply to the nearest station agent of the Chi-
cago, Milwaukee & St. Paul Railway, or to any
Railroad Agent anywhere in the World.

R. MILLER,
General Manager.

A. V. H. CARPENTER,
Gen'l Pass. and Tkt. Agt.

J. F. TUCKER,
Asst. Gen'l Manager.

GEO. H. HEAFFORD,
Asst. Gen'l Pass. and Tkt. Agt.

MILWAUKEE, WISCONSIN.

For notices in reference to Special Excursions,
changes of time, and other items of interest in con-
nection with the CHICAGO, MILWAUKEE & ST. PAUL
RAILWAY, please refer to the local columns of this
paper.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

To American subscribers, postage prepaid..... \$1.00
To Canadian subscribers, postage prepaid..... 1.00
Foreign subscriptions..... 1.25

All Drafts and Post-Office Money Orders must be made payable to E. Harrison Cawker.

Bills for advertising will be sent monthly, unless otherwise agreed upon.

For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE, JANUARY, 1887.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE AMUSEMENTS.

ACADEMY OF MUSIC—Performances every evening, Wednesday, Saturday and Sunday matinees.

GRAND OPERA HOUSE—Performances every evening, and Wednesday, Saturday and Sunday matinees.

DIME MUSEUM—Performances every hour from 1 P. M. to 10 P. M. every day.

PALACE THEATRE—Every evening, Wednesday, Saturday and Sunday Matinees.

STREET THEATRE—(German)—Wednesday, Friday and Sunday evenings.

CHICAGO trade for 1886 is placed at \$997,000,000.

THE total fire loss in the United States and and Canada, for the year 1886 is placed at 116,600,000. It is fearful to contemplate.

M. JOSSE of Antwerp, Belgium, has invented an apparatus for the aeration of cargoes of grain by means of compressed air. The new system is not expensive, and is readily applied.

A CONSIDERABLE demand for California wheat from Peru has arisen, for the reason that Peru has closed her ports against Chili, on account of cholera.

PROMINENT grain dealers of New York, Philadelphia, Baltimore and Chicago are making arrangements to form an association for the purpose of carrying their own insurance on grain in registered warehouses.

MESSRS. G. W. BROWN & SONS, of Beecher City, Ill., writes us as follows: "We desire a good miller to erect or assist (say half) in erecting a flour mill in our village. This we consider as good a location as any in central Illinois. Our citizens are willing to help an enterprise of this kind liberally.

CUSTOM and Exchange millers will consult their interests by reading the advertisement concerning "EXCHANGE TABLES" on another page.

THE annual report of the Millers' National Insurance Co. of Chicago, Ill., has recently been issued. It shows a surplus over all liabilities of \$1,122,904.71. This includes \$935,984.29 of deposit notes subject to assessment. The total losses for the year 1886 were \$28,926.21.

The total losses paid since organization in 1876 amount to \$632,601.44. Col. W. L. Barnum is secretary of the Company, and his address is No. 205 La Salle st., Chicago, Ill.

THE almanac for 1887 gives a few items of general interest. New Year's Day came on Saturday, Washington's Birthday comes on Tuesday, St. Valentine's Day on Monday, April-Fool Day on Friday, Memorial Day on Monday, Fourth of July on Monday, Christmas on Sunday; Easter Sunday will be on the 10th of April; Lent begins March 2. There will be four eclipses—two of the sun and two of the moon; one (Feb. 8.) visible as a partial eclipse in the United States. The others that occur, as follows, are not visible in the United States: The annular eclipse of the sun, Feb. 23; Aug. 19, of the sun.

OPERATIVE millers desiring a thoroughly practical work on milling can do no better than to purchase "Gibson's Gradual Reduction Milling." Price \$3 or with the UNITED STATES MILLER one year, \$3.50.

ABOUT 8 o'clock, in the evening of Jan. 6, a fire broke out in the foundry department of the Reliance Works of Edw. P. Allis & Co. Damage is estimated to amount to about \$50,000. Fully insured. Quite a number of men will be thrown out of employment for about two months, in which time it is expected that a new foundry will be built. The firm sends a large number of their men to Pullman, Ill., where they have made arrangements to do their work until the completion of the new shops. There will be little delay in filling orders.

It is reported that a young man traveling for Edw. P. Allis & Co., has recently swindled the firm out of \$1,900 and left for parts unknown.

THE *American Machinist* says: A machinery dealer sold an engine and boiler to a party in Georgia under an agreement reserving title and ownership in the seller until the whole purchase price should be paid. This was supposed to be a very safe transaction, but as the property was destroyed by fire, and as the Supreme Court of Georgia has decided that in the absence of negligence on the part of the buyer the risk was wholly that of the seller, that machinery dealer has lost faith in the security of such contracts.

FOR \$1.80 we will send to any address in the United States or Canada post-paid, the New York *World* (weekly), THE UNITED STATES MILLER (monthly) and the History of the United States, a handsome volume of 320 pages bound in leatherette tree calf and containing 22 engravings.

MUTUAL INSURANCE COMPANIES DO SOMETIMES FAIL.

The announcement is made by the *Standard* of Boston, that the Spinners' Mutual Fire Insurance Company, of that city, of which Edward Atkinson is president, has gone into voluntary liquidation. The reason of this is understood to be the loss of \$28,000 on the Indian Orchard Mill, which was lately burned, and a bad run of losses in general business.—*Spectator*.

This is certainly a great surprise to many underwriters and others who felt that such a

thing as failure was hardly possible with any of the New England Mill Mutuals. Not only had the system been regarded as affording substantial protection, but it had been looked upon as a system affording insurance far below any rates that could be safely named by any stock companies. The *Spectator* says that the Spinners' Mutual was represented from the first to be a gilt-edged company, and if it could not make a success, it will be astonishing if some of the other mutuals do not speedily follow its example and close up their business.

ROBERT GRIMSHAW's new work, entitled "The Pump Catechism" is just out. Price \$1.00. The work is a practical help to runners, owners and makers of pumps of any kind. It covers the theory and practice of designing, constructing, erecting, connecting and adjusting pumps. The work can be ordered from the UNITED STATES MILLER.

WE have received from Mr. Bruno Kniffler, representing the Moritz Martin patent, No. 211,033, a copy of the decree of the U. S. Circuit Court for the Eastern Dist. of Michigan, in the case of Moritz Martin, complainant, vs. The Geo. T. Smith Middlings Purifier Co., impleaded with A. H. Kirk, W. H. Fender and Sam. L. Bean, defendants, which decrees the complainant a proportionate share of the royalties paid to the Smith Co., by the Milwaukee Dust Collector Co., for license to manufacture dust collectors under nineteen different patents, including No. 211,033. The amount of such royalties to be paid over to complainant was referred to Wm. J. Wells of Detroit, Mich., as Special Commissioner of the Court for determination.

BUREAU REPORTS.

IN commenting on the recent action of our Chamber of Commerce, the *N. Y. Commercial Bulletin* says: "The Milwaukee Chamber of Commerce has taken a stand against the publication of monthly reports by the National Bureau of Agriculture, on the off-hand assumption that such a publication subserves no useful purpose to the agricultural and commercial interests, and enables foreign customers to establish values for our crops, in advance of the harvest, often less than the actual out-turn would warrant. The National Board of Trade accordingly is to be petitioned to use its influence with a view of suppressing these reports. We doubt if the National Board will do any such thing. The Bureau Reports unquestionably are susceptible of improvement in more ways than one, but as they stand, they are infinitely better than nothing, and it is preposterous to allege that they 'subserve no useful purpose to the agricultural and commercial interests.' It may well be asked, where would the commercial and agricultural interests be without them? Simply at the mercy of whatever reports and estimates it might suit the professional speculators to put forth."

WE will send the United States Miller, The American Miller, and The Northwestern Miller, (weekly), and The Milling World, (weekly), for one year, to any address in the United States or Canada for \$4.00, or to any Foreign Country for £1. 3s.

DULUTH ITEMS.

DULUTH is to have an elegant union depot built during 1887. The building will be owned and operated by a joint stock company.

A LARGE number of men are at work clearing the right of way on the Duluth short line between Oneonta and Thomson.

THERE is a great deal of interest manifested in elevator building, and it is estimated now that not less than 10,000,000 bushels of storage capacity will be added during 1887, and prominent railway officials and shippers and receivers claim that it will all be needed. President Fisher, of the St. Paul & Duluth road, says that his road would have brought from 8,000,000 to 10,000,000 bushels more wheat here this winter if there had been sufficient elevator room, while the Omaha road has been prevented from bringing here 1,500,000 bushels of corn. The receipts of wheat here since last January have amounted to 22,550,000 bushels for the year, while shipments were 16,764,192 bushels. The gain in receipts over last year is 6,725,000 bushels, and in shipments 3,000,000 bushels. Had Duluth had sufficient elevator capacity, her receipts would have been larger than those at Minneapolis, which leads this year by about 8,000,000 bushels.

WHEAT thieves have been bothering grain receivers for some time. It is estimated that over twenty cars of wheat have been stolen during the past few months. Efforts are being made to put a stop to it.

A NEW bank to be called the Union National Bank of Duluth is soon to be opened in Duluth. The authorized capital is \$2,000,000 and paid up capital \$500,000. A new private bank with a capital of \$200,000 will soon start business.

THE new DULUTH EXCHANGE was formally opened on the afternoon of January 3. In concluding the opening address President Beneteau said:

"In conclusion, gentlemen, I might say that the Duluth Produce Exchange offers special inducements to operators in almost every line of business peculiar to our location, including transportation and insurance."

Mayor Sutphin, Hon. H. S. Colfax, late of Colfax, Dak., Col. Lucien J. Barnes, Secretary of the Exchange, and others made eloquent and instructive speeches. We cannot resist making the following brief extract from the speech of Col. Barnes.

Our shipments of flour increased from 1,155,000 barrels for 1885, to 1,350,000 barrels for 1886.

Our receipts of wheat for the year 1886 were 22,672,000 bushels, as against 15,000,000 for 1885.

It will be observed that our receipts and shipments of wheat for the past year exceeded those of Chicago by several million bushels, and our wheat was not only of a better quality, but it was clean before it was received or admitted to storage in the elevators of our city. The storage capacity of our elevators is now 11,500,000 bushels, and with the completion during the present season of four new elevators, we shall be in condition to furnish storage room for 15,000,000 bushels.

Our elevators now contain about 10,000,000 bushels, as compared with 5,000,000 bushels at the close of 1885. We received by lake during 1886, 700,000 tons of coal, as compared with 600,000 tons during 1885.

The value of new buildings erected in Duluth during 1886 was \$3,000,000 and in addition thereto the railroads terminating here paid out \$1,000,000 for new docks, flour sheds, depots, side tracks and other terminal

facilities, while the early future promises greater activity in the line of railroad building in the section of country tributary to Duluth than has been witnessed at any time in our past history.

Not many years ago, our city was of so little importance, that even its location was totally unknown to the great and wise men in Congress who listened with rapturous delight to the sarcastic description by the member from the Kentucky blue grass region, who has since climbed into the gubernatorial chair, of the imaginary commercial greatness then hovering over the devoted heads of the few pioneers and cruisers who had penetrated to these unknown and frozen regions of the north. Now twenty-eight passenger trains arrive at and depart from our city. All honor to the pioneers and early settlers of Duluth for their sagacity in selecting the site laid out by nature as combining advantages not possessed by any other city upon the great chain of lakes. All honor to that distinguished financier, Jay Cooke, of Philadelphia, whose name will ever be gratefully remembered by his loyal fellow countrymen for his eminent services to the government during the dark days of the war for the union, and who secured the construction of the Northern Pacific railroad from Duluth to the fertile valleys and boundless prairies of Dakota.

All honor to the firm of Carrington & Casey, merchants, who rose from their primitive and miniature commercial transactions at the little town of Middlebury, to their present position in the world of business, and whose wealth and good judgment located and completed the first elevators built in our city, which have contributed so greatly to the growth and prosperity of Duluth.

All honor to those who opened up the canal which connects our peerless harbor with the waters of the great lake.

All honor to George C. Stone and his associates, for the discovery and development of the great field of wealth, hidden but a short distance below the surface of the earth, along the Vermillion range.

Honor to those who maintained their allegiance to Duluth, through good report and through evil report, through the crisis in her history until they can to-day witness her on the high road to a growth and prosperity which is to be astonishingly great, brilliant and permanent.

As an indication of this, permit me to refer to the activity which has characterized real estate transactions at this point during the past twelve months. It appears from the records of the register's office that there have been over 2,000 transfers recorded during that period, covering a valuation of \$5,000,000. In the accomplishment of this result the real estate agents operating here at the beginning of the year, have been largely assisted by others coming from various points in Dakota and elsewhere, who now seem determined to capture their share of business on the floor of this exchange. We welcome them as valuable additions to our organization. Henceforth, let every stranger visiting Duluth find his way to the Produce Exchange rooms, and he need not depart therefrom without a feeling of relief as well as of satisfaction.

The rate of taxation for all purposes, has been fixed for the present year upon Duluth property at 22 2 mils, the assessed valuation being about \$12,000,000.

Our public and private schools and churches are in a flourishing and prosperous condition. We have just erected a handsome high school building at a cost of \$20,000, and an equal amount has been expended during the past year for the erection and improvement of other buildings and grounds.

In these few remarks hastily prepared, I have purposely refrained from indulging excessively in statistics, and refer you to the annual reports of our newspapers and of our various commercial organizations for more complete and detailed information.

We may well congratulate ourselves upon the many and unmistakable evidences of prosperity in our midst, the rapid growth of our city in wealth and population, and especially upon the rapidly increasing membership of the Duluth Produce Exchange.

INDIAN vs. AMERICAN WHEAT.

There seems to be an idea prevalent that India can so successfully compete with America in the matter of wheat growing that the latter country will, ere long, be beaten out of the field, on the score of cheapness of production. This idea has probably been brought about by the fact that within the last seven years the Indian wheat exports have risen from one to five-and-a-half million quarters, which latter figure is about the total likely to be reached in the present calendar year; and also by the fact that the present low prices of wheat are considered to have been mainly caused by this increase in Indian wheat supplies. We do not share this latter opinion, but consider that present low prices have been brought about by over-production alone, in which the Indian supplies have played one of the least important parts. It may at first sight be granted that as the native Indian wheat cultivator works for something like 2d a day, the Indian farmer starts with a great advantage over his American rival. It has also been endeavored to be demonstrated by figures that 30s per quarter is the minimum average price at which Indian wheat can be laid down in London, whilst American wheat cannot be grown profitably for less than 32s 6d, if it can for that, which there is reason to doubt. On this point it may be argued that if the present value of the Indian rupee were not exceptionally low (1s 5d) the Indian farmer would not be able to grow wheat at the above price; and it is open to believe that the present abnormally low value of silver will not always be maintained, indeed it has already risen 10 per cent. from the lowest point this year. Indian wheat, moreover, largely as it has grown in consumption of late years, could not be expected to entirely supplant other varieties; for instance, if a British or Continental miller were to make his flour wholly from Indian wheat, he would find it unsaleable, in other words, Indian wheat cannot stand alone as a flour making grain for European tastes, therefore there would always be a limit beyond which the supply of India could not profitably grow, whilst almost every other quality of wheat would stand alone if no other sort of wheat were forthcoming. There is, moreover, considerable vagueness about the home requirements of India; we know approximately that India grows 35 million quarters of wheat in a good season; we know, too, that a larger quantity than five million quarters has never yet been exported in one year, and that, nevertheless, there is no accumulation of old wheat; on the contrary, we are told that the natives, who used to store the whole of the surplus of one or even two harvests, in pits, are now complaining of the emptiness of these pits. This, therefore, would seem to dispose of the notion that ten years ago India only produced fifteen to twenty million quarters. A country like India, with its lack of transport facilities and absence of modern machinery, and its primitive method of growing wheat, is not likely to have more than doubled its growth of wheat in a single decade; on the contrary, the growth of the cultivation of wheat under present conditions in India must of necessity be slow. America, on the other hand, grows on its present acreage, in fairly good years more than sixty million quarters, against less than forty million quarters ten years ago, and has exported in one year within the

decade nearly twenty-five million quarters, and might possibly have an equal amount to spare next season if the crop yields well. Thus it would appear that India's capacity to export is at a maximum six million quarters, and that this maximum has been reached within the last two years, so that for the present, at least, there is not much prospect of America being beaten out of the field as a wheat grower by India.—*Millers' Gazette* (London, Nov. 1).

FROM BRADSTREETS.

CHICAGO AS A GRAIN MART.—The fact that receipts of wheat at Chicago this season have declined, and that what it has lost in this direction has been gained largely by Minneapolis and Duluth, has stirred up newspapers as well as members of the grain trade in the northwest. It is noted, too, that the chief grain inspectors at Chicago and a committee of the Chicago Board of Trade have been examining the methods of handling grain at the northwestern cities named, presumably with the intention of improving their own when they get home again. It is alleged that Chicago has thus far graded wheat which was not quite clean, quite low, against the merits of the grain, and that from this practice the opportunity to buy good wheat cheap and clean it (say at Milwaukee, after paying extra carriage) has given rise to a regular business in that line at the cost of consignors. Meanwhile the practice is working its own cure, and Chicago is surprised to realize that Minneapolis, St. Paul and Duluth grade wheat subject to cleaning, that the elevators are all fitted with cleaning apparatus and that a state weighing law are among a few reasons why Chicago's long supremacy as a grain market had begun to show signs of a decline.

PATENT—PRIOR PUBLICATION—SPECIFICATIONS IN FOREIGN LANGUAGE.—The question was recently raised in England whether the deposit of a specification in the German language in the library of the Patent Office in such a way as to be accessible to the public was such a publication as to avoid a patent subsequently obtained in England. In addition to the deposit of specifications and drawings at the Patent Office, the fact had been duly announced in the *Patents Journal*. Mr. Justice Chitty, before whom the case came, held that the deposit amounted to a prior publication. The true test, he said, was whether the German specifications had been so published in England as to become matter of common knowledge. The fact that they were not in English, he said was immaterial, as German was a language generally known.

TO CURE A FELON.

The *Boston Transcript* says: That woolen smoke is a cure for a felon is certainly one of the medical discoveries of the age. Could we give the name of the correspondent who sends us the following, it would be at once recognized as of authority sufficient to guarantee the truthfulness of any assertion to which it might be appended:

"If you ever endured the agony of a felon, you will appreciate the fact that it can be cured by woolen smoke. Place the woolen rags under an inverted flower-pot, and put coals upon them, or set them on fire some other way, then hold the felon over the smoke,

and it will extract all the pain. This has been done by a friend of mine within a week. I assure you that in my circle we consider it as great a discovery as that ether will temporarily deaden pain. The only remedy for a felon that I ever considered infallible, and I have had cognizance of several aggravated cases, was having the part laid open (under the influence of ether) and the bone thoroughly scraped. That reaches the root of the difficulty; but the smoke cure is far better. I once took a woman to a hospital, and charged the attendants to see that the ether was administered previous to the operation; but they broke their promise, and it took two men to hold the poor girl during the operation, after she had suffered untold distress with her finger for three weeks, which distress I had shared."

SUGAR AS AN ANTI-INCRUSTER FOR BOILERS.

The *Rivista di Artiglieria e Genio* contains an article by Colonel Polto, of the Italian Engineers, detailing a series of experiments carried out by him using sugar to prevent boiler incrustation. The boiler used was of the Field type, 126 tubes and 20 h. p. It commonly required cleaning every 45 days, or after every 380 working hours, when the weight of scale removed was 12 kilogrammes, or 26½ lbs., the best method of preventing the same having been employed. Before commencing experiments, one-third of the tubes were left purposely uncleared. The boiler was filled with water and 2 kilos. (4½ lbs.) of sugar were introduced, a supply of 2 or 4 lbs. being added alternately for each of the seven days. After the usual 45 days' work, the boiler could be cleaned without scraping, and much scale had been removed from the tubes purposely left uncleared. The rest of the tubes were perfectly clean. On repeating experiments another 45 days the unclean tubes were much better, 8 kilos. of old scale being detached and found at the bottom. The sugar was a kind known in Italy as Muscovado, a raw sugar. With water of medium hardness—about 5½ lbs. per horse power—working twelve hours a day, gave best results. The saccharine solution was found to have no corrosive effect on the boiler plates.

OATMEAL.

The nutritive properties of oats are becoming better known, and oatmeal is coming into more and more general use. In the first place to properly manufacture oatmeal the very best grain should be used. Next in importance is the proper kiln-drying of the grain. Unless oats are properly kiln-dried it is vain to expect good meal. It is generally supposed that the purpose of kiln-drying oats is to drive out the moisture which they contain. Of course this must be done, but there is an equally important purpose to be accomplished in the process, and that is the "cooking" of the grain. But the drying and cooking are so inseparably allied that it would be difficult to explain where the one ends and the other begins. A skillful drier knows well the difference, and is well aware how many points he has to consider as to condition and texture of the grain he is handling, and the best way to bring out the flavor of the different grades of oats, which are as varied as the soils on which they grow. It is in the matter of "cooking" that the millers on this coast fail,

and their failure cannot be remedied by the cook of the household, however skillful she may be. One of the great objections to the more general use of oatmeal at the breakfast table is the long time it requires to cook—from thirty to forty-five minutes—whereas thoroughly good porridge should be cooked in from twelve to fifteen minutes, if the oats are properly kiln-dried. The use of "drying pome" is an entire mistake in the manufacture of oatmeal and the steam-drying process is a still greater failure. The older process of drying on coke-kilns, either of metal plates perforated or of wirecloth, produce much better results where skillfully worked than any other process as yet in operation. Any one who has ever tasted the toothsome oatcakes which once formed the staple bread of Scotch households, knows that they had a flavor and crispness that no other bread had. These cakes were "fired" on what was called a "brander," and the heat of the peat or wood-fire went direct to the cakes. The process of firing was exactly similar to "broiling a steak." Cakes baked on this plan were far preferable to those fired any other way. It would seem that the more directly the heat can be applied to oats without any intervening plates or bars the more effectually they are dried, and the result in the quality of the meal is more satisfactory. There is nothing to hinder a much larger consumption of oatmeal if the public are supplied with the genuine article at a reasonable price. Millers should lose no time in improving the quality of this valuable article of diet.—*Daily Alta California* (San Francisco).

VIOLATIONS OF BUSINESS HONOR.

An old mercantile authority says that honor is violated when a man uses information confidentially intrusted to him to anticipate the informer. A man violates the laws of honor when he takes advantage of another's unskillfulness or inexperience, or the technicalities of the law to impose on him. A man acts dishonorably when he does not make sacrifices to pay his debts promptly; when he attempts to raise the market price on another buyer; when he sells below the market price to get away his neighbor's customers; when he is unmindful of favors; when he does not allow his clerks and dependents to share in his prosperity, and in all cases when he does acts which, if thoroughly understood, would tend to lower him in the estimation of his customers, or of any good man.

A NEW FEATURE IN THE FLOUR TRADE.

"Purchases of flour have recently been made by Montreal firms on Newfoundland account," says the *Montreal Trade Bulletin*, "to an extent which is something very unusual for this season of the year. No less than five vessels have been engaged at Halifax by Messrs. James Lord & Co., of this city, to take about 12,000 bbls. of flour, besides butter and provisions, to St. Johns, N. F. Two vessels are already being loaded, and the other three are now on the way to Halifax to take on cargo. The principal of the above firm informed us that he never before received such large orders from New Foundland after the close of navigation, although he has been in the trade for the past twenty-five years. A considerable portion of this flour has been purchased in the west on a through rate to Halifax via the Intercolonial."

MINNEAPOLIS NOTES.

JANUARY 5 the north side of the annex to Pillsbury's elevator in Minneapolis burst open and 60,000 bushels of wheat mingled with the debris of the building run out on the ground. The building cost about \$12,000. The loss on the wheat will be very little.

THE Pray Manufacturing Co. of Minneapolis has made an assignment. The official schedule shows the liabilities to be \$292,826 with assets amounting to \$124,457.

A LARGE sawmill is to be erected in North Minneapolis, and will be ready to commence operations next spring. It will cost about \$130,000 and will have a capacity of cutting 20,000 feet per hour.

THE *Pioneer Press* in its annual review, in regard to the flour industry, says:

The flour milling year ends naturally Sept. 1. A detailed review of the year's product was published Sept. 13, and the figures given here are for the year ending at the date named above. Since then the millers have had some unusually trying experiences. The fall and winter months are always liable to

rapid growth of the export is indicated in this table, giving the record for eight years:

	Barrels.	Barrels.
1878.....	109,183	1,700,750
1879.....	442,598	1,782,081
1880.....	700,442	1,080,562
1881.....	1,181,822	2,408,590
1881-82.....	(27,000)	

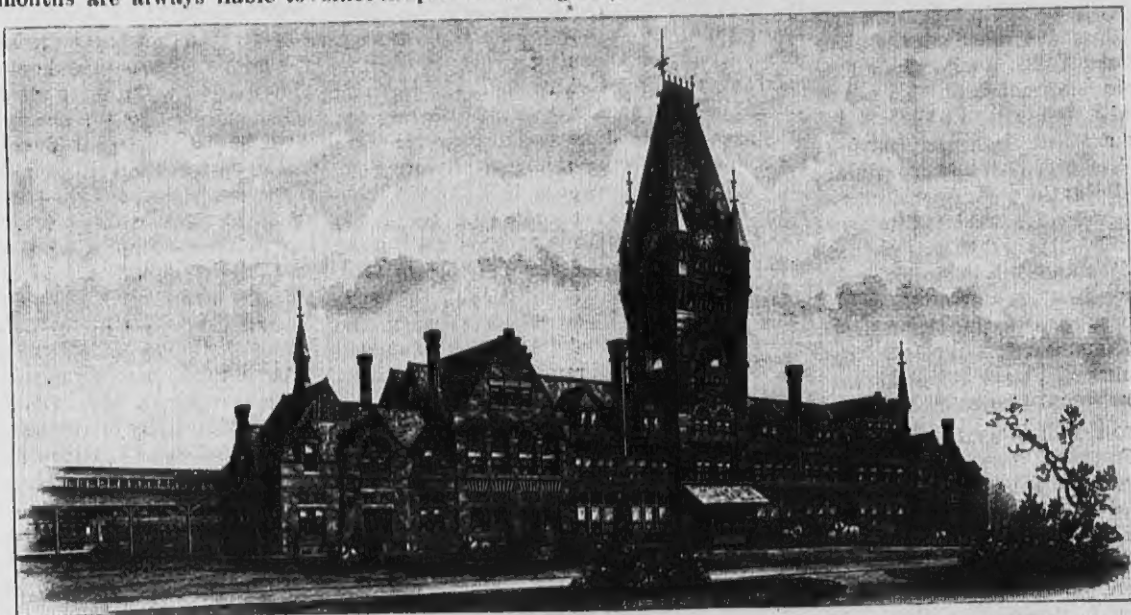
THE rumor that Minneapolis millers were about to pool their interests for the purchase of grain and the sale and storage of flour has stirred up a great amount of discussion in the newspapers. From inquiries made from parties who ought to know something about it we are inclined to believe that there is nothing in it. The Minneapolis millers have, it seems, found it unprofitable to maintain their local association.

DIED, at Tipton, Ia., Dec. 28, E. R. Stephens, junior member of the milling firm of Crocker, Fisk & Co. He was about 40 years old at the time of his death. He leaves a family. He had resided in Minneapolis since 1867.

A HAPPY NEW YEAR CELEBRATION.

New Year's eve, as has been its custom since the present managers have been in office,

character of the work. With well chosen and happy words he expressed the Company's appreciation of the services of all, complimented the employees on the character of the work they had produced, and commended the zeal they had shown in the Company's interest. He said the race had been so close between several of the salesmen, and also of the foremen, that in the language of the turfmen, all could be covered with a blanket as they passed under the wire; and in the future two prizes would be given to each class, a first and second. Among the traveling salesmen, all things being considered, Mr. Jno. M. Roe, of St. Louis, southwestern agent, appeared to be slightly in advance of his competitors, and among the foremen the statistics which had been kept during the year showed that Mr. Luther J. Curtis, of the reel room, a close winner. Each was presented with the Company's check for a liberal sum. The recipients appropriately acknowledged their thanks and were congratulated by their associates. A sentiment was drunk to the Company and then speeches were made by Clark, Winn,



THE NEW UNION PASSENGER STATION OF THE CHICAGO, MILWAUKEE & ST. PAUL RAILWAY AT MILWAUKEE, WIS.

make trouble with the water power and the trouble this season has been more serious than usual. The Pillsbury and Washburn mills are now nearly all provided with steam plants and undoubtedly, after their late experiences, the other millers will all soon be so provided against emergencies. Instead of indicating any back set to the milling interest, however, this feature furnishes an added element of stability.

The milling capacity was enlarged somewhat by additions and improvements on old mills. The total daily capacity is now 33,175 barrels. The total product for the twelve months was 5,687,347 barrels against 5,450,163 barrels the preceding year, an increase of 237,184. The statement showing the remarkable growth in the past five years is exceedingly striking. It is as follows:

	Barrels.
1880-81, total product.....	2,900,268
1881-82, total product.....	2,301,967
1882-83, total product.....	4,000,493
1883-84, total product.....	4,797,240
1884-85, total product.....	5,450,163
1885-86, total product.....	5,687,347

The record of the flour shipments for the past four years is as follows:

	Barrels.	Barrels.
1885-86.....	5,109,183	4,814,424
1884-85.....	5,208,051	4,080,008

A particularly gratifying feature of the situation is the development of the export trade. For the twelve months ending Sept. 1 the total export was 2,408,590 barrels. The

the George T. Smith Middlings Purifier Co. entertained its traveling salesmen, foremen and office assistants. At 3 o'clock, p. m., five sleigh loads left the Company's office, drawn by the firm's own teams of magnificent Percheron horses, and drove four miles to Michigan Centre, where Tim. Pangborn had prepared a sumptuous New Year dinner, at which, at half-past 4, fifty-two of the company's employees, including its officers, sat down. For an hour and a half social conversation, mingled with the clatter of the dishes, as the numerous courses were changed, and the clinking of wine glasses made merry music. Then followed speeches, stories and songs. Col. Rodney Mason, with whose name all who know the Geo. T. Smith Middlings Purifier Company and its history are familiar, led off with a presentation speech, in which he stated the annual custom and reiterated the promise of the company to make a handsome present at the end of the year to that salesman and to that foreman who had respectively sold the most machines with the least expense, and reduced the expenses of his department the most, while keeping within the bounds of the Company's instructions in reference to the

Webster, Reynolds, Roe, Mason, Hoffman and others. Tim. Pangborn amused the guests with some of his inimitable stories, told as only Tim. can tell them, and from then on until 8 o'clock, side-splitting yarns, appropriate songs by J. W. McGraw and others, filled up the time. A pleasant ride to the city wound up an evening voted by all the pleasantest in the Company's history.—*Jackson (Mich.) Citizen.*

FLOUR MILL DIRECTORY FOR 1886-87.

All persons desiring to reach the milling trade should invest at once in a copy of Cawker's American Flour Mill Directory for 1886-7, issued Feb. 1, 1886. It is carefully compiled; contains 18,289 addresses in the United States and Canada; Shows in thousands of instances the capacity, power and system of milling (i. e. whether the stone or roller or combined system is used). It also contains a list of millwrights and American and European flour brokers. The book is sold at \$10 per copy and can be obtained by addressing the United States Miller, Milwaukee, Wis. This Directory is published once in two years.

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YIELD.

THERE is one machine among the many employed in milling operations that is not nearly understood in utility; at least its potency to success in mill managing is not properly appreciated. It is the automatic grain scale that regularly weighs and registers the wheat as it is manufactured into flour. The business manager of the mill may imagine that whereas he at regular intervals weighs up so much grain into the stock hopper and takes account of all its products, that he has reduced the subject of yield to a science, and has the work indicative of profit or loss down to a very fine point; but it is noticeable that the balance sheet at the end of a season is not in accordance with the interval showing, and this is easily accounted for. But few, if any, millers like the idea of "getting left" on a test run, consequently when the special test is made *special milling* is done, and not frequently the year of a poor yield on a trial occasion is too much for the poor miller's squareness, and he will, if possible, smuggle in some stock and shuffle aside some of the feed, or turn in some high grade flour and turn aside some of the low grade. Again, the manager usually accepts a good showing with better grace than a poor one, and an inordinately large yield creates a better feeling all around than the inordinately small. A good and reliable grain weigher and register properly manipulated does away with the test as usually conducted, and is at all times a powerful incentive to careful milling and grain buying, while at the same time there is not much room for debate and bickering between the miller and manager as to mistakes in weight of stock or products, as the grain scale is in charge of the managing miller, who has the privilege of overlooking the weighing and counting up of products. Of all the ways of getting at the truth of milling conduct, satisfactory to all around, none are so positively certain as the well arranged and conducted automatic grain scale standing as an indicator to what the mill is doing properly or otherwise.—*The Modern Miller.*

ITEMS OF INTEREST.

A LABORING man of Minerville, Pa., has patented a car brake, which he thinks is much better than the Westinghouse brake. He says it can stop a freight car running at the rate of thirty-five miles an hour in fifteen feet, lock the wheels dead in six or eight seconds, and stop a locomotive running at the rate of forty miles an hour before it has moved twenty-five feet. He has been offered \$75,000 for his invention.

PORTLAND (OREGON) FLOUR OUTPUT.—The Portland *News* says that Portland probably has fewer flouring mills than any other city situated in the heart of a great wheat-growing country in the United States. A very large quantity of wheat is received there annually. There are but three mills in the vicinity of the metropolis, two in Portland and one at Albina. Only one at Portland has produced any quantity of flour this year, the others confining themselves to other productions. The two at Portland have a capacity of 1,350 barrels, and were operated about 300 days this year, turning out about 405,000 barrels. This output, at \$3.75 per barrel, was

worth \$1,545,000. The officers of the mill report a large and increasing demand for the flour, which now goes in all directions; principally to Europe, although British Columbia, Puget Sound and other parts of the Pacific Coast consume large quantities of it. There is room in Portland for several flouring mills of large capacity.

MONTREAL STORAGE RATES.—The rates of storage in Montreal are as follows: On grain ex-craft—elevating and weighing in, 1c per bushel, 10 per cent. off; transshipping from one vessel to another (each vessel), 1c per bushel, 10 per cent. off; storage for each term of ten days, 1c per bushel. On grain ex-cars and carters—Storage for first term of 10 days, 1c per bushel; each succeeding 10 days, 1c per bush.; loading on cars, \$1 per car. No extra charge for weighing out and delivering grain in bulk on board craft, or in hoppers for bagging. On flour and meal—Storage for 48 hours, 1c per bbl. and 1c per bag of 100 lbs.; storage for 10 days, 2c per bbl. and 1c per bag of 100 lbs.; storage for first month, 3c per bbl. and 2c per 100 lbs.; storage for succeeding months, 2c per bbl. and 1c per bag of 100 lbs. delivery to craft, 1c per bbl. and 1c per bag of 100 lbs.; up-ending or repiling, 1c per bbl. and 1c per bag of 100 lbs.; loading on cars, \$1 per car. The cooperage on flour, 1c per bbl. On short weight there is a fine of 2c per bbl. on flour. The inspection of flour is 2c per bbl. or bag.

THE "typo-telegraph," which is a new invention, is now being tried in Paris by the Minister of Posts and Telegraphs. It has been submitted by M. Etienne de Fedor, and it is intended to be devoted chiefly to press messages. The article of a paper or journal which is to be forwarded by telegraph to another journal is first set up in ordinary type in a column and then stereotyped. The block is afterward sent to the telegraph office and serves as original of the message. M. Fedor claims that the rapidity of the transmission may reach 1,200 letters per minute, or about 14,000 words per hour.

THE very best way to prevent scale in a steam boiler, is to use a feed water heater that will deposit the scale by raising the temperature of the water in the heater high enough to liberate the soluble matter before the water gets into the boiler. Nobody ever heard of "bagged sheets" on a heater. We see one every day on boilers. Don't let the scale in and it won't trouble you.

TEMPERING STEEL.—When we were much younger than we are now and the zylonite clearing on top of our head hadn't acquired such beauteous proportions, we had to temper up a lot—yea verily, many lots—of steel tools, and here's the "great secret" we used: We got a "slush bucket" and washed it out clean, then weighed out 1 oz. corrosive sublimate, put in two handfuls common salt and stirred it up with two gallons rain water, heated the tools in hot lead and hardened in this liquid and drew over a charcoal fire. A tool never broke.

You can make your own "gas fitters'" cement thusly: Melt up 44 lbs. rosin, 1 lb. beeswax, and stir in 3 lbs. Venetian red; it will hold gas in.

SALE OF WHEAT DEPOSITED—APPARENT AUTHORITY.—A company operating an elevator receiving wheat on deposit and also

purchased wheat on its own account. The wheat deposited and the wheat purchased were mingled in common bins, and publicly sold and shipped from day to day, with the knowledge of the depositors. The Supreme Court of Indiana held (*Lagrange et al. vs. Witherspoon et al.*) that, under the circumstances, the elevator company was clothed with an apparent title and right to sell the wheat, and that those who purchased wheat from them in good faith and in the usual course of business would be entitled to hold it as against the depositors.—*Bradstreet's.*

OR interest to engineers is a tell-tale paint, the invention of an Englishman. If the bearings of an engine are covered with this paint, the abnormal color of which is a brilliant red, and such bearings run hot, the paint will darken in color, until at 180° Fahrenheit it is quite brown. As the paint cools it recovers its original color.

Down draughts in chimneys may be obviated by a recent English device. It consists of a number of grooved rings placed over each other with spaces between and made of metal or clay. The grooves are so shaped that when the wind strikes them it is so deflected that it draws air up the chimney, and in this way effectually prevents down draught.

NONSENSE.

A COURT EPISODE.—Judge Cory's Irish setter went into convulsions the other day. He was sitting on a faded orange blossom beside the judge when the name of A. L. Miller was called. Miller is a Norwegian. He has been a resident of the United States for six years and served fifteen months in the Stillwater penitentiary. When his name was called not one of the twenty-six prisoners stirred. The dog scanned the crowd and finally fixed his eyes on Miller. The judge did likewise.

"Miller, you are charged with vagrancy," he said.

Miller never stirred.

"Stand up, sir, when I call your name."

Still Miller remained immovable and the dog seemed mystified.

"Bailliff, ask him if he talks English," ordered the court.

"Can du intet tala Engleska?" asked the bailliff.

"Yah, voeg can stet itcha tula Engleska," replied Miller.

The dog smiled.

"He says he can't talk English," interpreted the bailliff.

The dog smiled again.

"Well, tell him I will give him thirty days in the work-house where he may study the English language," replied the court.

"Vell, vell," said the man who couldn't speak English, "you vas ye yamdest yudge as I ever see 'cause I no speak English. I wish now I say I speak English."

The dog convulsed.—*Pioneer Press.*

A GOOD story is told upon a patent churn agent. He visited a farm house to sell one of his double-gear, back-action, chain-lightning churns, that would bring butter in eight minutes by the clock. The old man had sworn to wage war on all agents, but he was from home, and the young ladies of the house invited the agent in, gave him his dinner and talked about his churn. Finally they said they would not buy one unless it would do the eight-minutes act, as stated

in the hand-bill. "Just bring on your cream," said the knight of the churn. "and while you watch the clock I will run the machine." The girls filled up the churn with the rich creamy looking liquid, and the man grasped the handle and began to churn. At the end of eight minutes he took off the cover, but there was no signs of butter. He laid off his coat and turned away at the crank for another eight minutes, but yet there was no sign of butter. Then he laid aside his vest and unbuttoned his collar. He twisted and perspired, and swore under his breath, until forty minutes had gone by, and the butter did not come. Then with a wild look in his eye he gathered up his churn, called for his bill, hitched up his team and hied himself away.

The girls had filled the churn with butter-milk.

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MILLING PATENTS.

The following list of patents relating to milling interests granted by the U. S. Patent office during the past month, is specially reported by Stout & Underwood, Solicitors of Patents, 66 Wisconsin street, Milwaukee, Wis., who will send a copy of any patent named to any address on receipt of 50 cents:

Issue of November 2, 1886—No. 351,782, pneumatic grain elevator, J. Lewis, South Evanston, Ill.; No. 351,864, grain conveyor, H. Delhaye, Paris, France

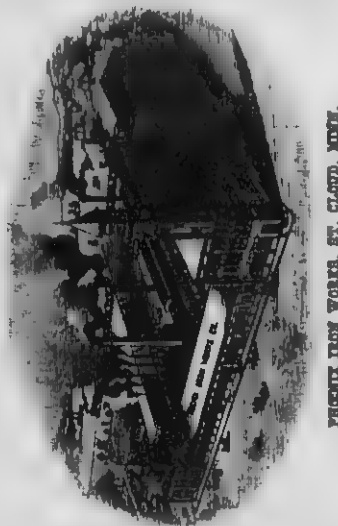
Issue of Nov. 9—No. 353,135, grinding mill, J. R. Kinley, Chicago, Ill.; No. 352,338, brushing mechanism for bolting reels, J. W. Crosby, Leeds, England.

Issue of Nov. 16—No. 352,810, middlings purifier, J. P. Doubel, Ypsilanti, Mich.

Issue of Nov. 30—No. 353,353, automatic grain weighing machine, C. Dornay, Englewood, Ill.; No. 353,433, feeding mechanism for grain, flour, etc., C. A. Andrus, La Grange, Ohio.

THE PHENIX IRON WORKS CO.'S NEW WORKS AT ST. CLOUD, MINN.

On January 1, the Phoenix Iron Works Co., of Minneapolis, took possession of their splendid new establishment at St. Cloud, Minn. The authorized capital, \$50,000, has all been paid in, and the machinery all placed and started up. The officers elected at the annual meeting of the company are: J. M. Rosenberger, president; J. M. Schutz, vice-



president and manager; John W. Head, secretary; H. J. Rosenberger, treasurer; J. B. Rosenberger, superintendent. The office of the company is at 46 Corn Exchange, Minneapolis.

The grounds that the buildings cover are 360 feet front, facing the canal, and 240 feet deep. The buildings cover the entire block, with railroad facilities at the back end. The three-story building, with the tower, is 60x280 feet, used for wood-working shop and main office. The machine shops extend the full length of the 360 feet frontage, with a two-story building on the lower corner and extending 280 feet deep. The foundry, 62x218 feet, and blacksmith shop, 40x60 feet, are located in the center. The shops are fitted up with the latest improved iron and wood-working machinery for manufacturing the firm's specialties. The new works form one of the largest establishments of the kind in the country and the manufacturers of the "Monitor" and the "Crown" are to be congratulated that they have secured such splendid permanent quarters.

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PUBLICATIONS RECEIVED.

We acknowledge the receipt from Mr. J. M. Case, of the Case Mfg. Co., of Columbus, O., of a handsome calendar and an original acrostic Garfield memorial which shows great ingenuity and skill.

The New Year's number of *The Art Amateur*, published by Mr. Montague Marks, 23 Union Square, is certainly a fine collection of artistic gems, and deserves to be in the hands of all art lovers.

HARPER'S MAGAZINE for January furnishes a generous installment of the novel attractions promised in its prospectus for the coming year in four strong and fresh contributions—the first part of Sir Edward Reed's "Continental Navies," the commencement of the series of Southern articles in Charles Dudley Warner's "New Orleans," Millet's "Summer Campaign with the Cossacks," starting the series of Eastern Papers, and the initial installment of Kathleen O'Meara's Russian novel, "Narka." Besides these special features the number contains a double installment of Blackmore's "Springhaven," the continuation of Roe's "Home Acre," a capital story by R. M. Johnston, "A Note on Impressionist Painting" by Theodore Child, several short poems, and the richly laden departments.

The sales of *The Century Magazine* have gone up over 80,000 copies in six weeks, since beginning the Life of Lincoln. A second edition of December will be issued on the 15th. A veteran New York publisher predicts that the permanent edition of the magazine will go beyond 300,000 before the completion of the Lincoln history. The January installment, which is said by the editors to be of most surpassing interest, occupies thirty pages of the magazine, and treats of Mr. Lincoln's settlement in Springfield; his practice of law in that city; the Harrison campaign; Lincoln's marriage; his friendships with the Speeds of Kentucky; the Shields duel; and the campaign of 1844. The illustrations are numerous, including portraits of Joshua Speed and wife, of Mrs. Lucy G. Speed, Milton Hay, President Harrison, General Shields, William H. Herndon (the law partner of Mr. Lincoln), and Mr. Lincoln himself, from the pho-

tograph presented by him to Mrs. Lucy G. Speed, in 1861. Pictures are given of the house where Lincoln was married, also the house where he lived after his marriage, etc., etc.

THE GRAPHIC NEWS, Cincinnati, O. Holiday number has come to hand, and we must say is highly meritorious from every point of view. The illustrations are numerous and of high artistic merit—the colored plates are well executed and the typography and paper and press work are about as near perfection as we ever see. *The Graphic* is steadily growing in popular favor, and is well deserving of the extensive patronage it already enjoys.

The February number of *Scribner's Magazine*, of which 125,000 copies have been ordered as a first edition, will contain a most interesting article, by Mr. John C. Ropes, upon the "Likenesses of Julius Caesar, with 18 portraits, one of which, engraved by Mr. W. B. Closson, will be the frontispiece of the number. A new story is begun in the same number,

by Mr. F. J. Stimson (J. S. of Dale), entitled, "The Residuary Legatee." The second installment of ex-Minister Washburne's "Reminiscences of the Siege and Commune of Paris" is of the greatest interest, describing as it does the most interesting phases of the Siege.

Messrs. Scribner have in press a new novel, by Mr. John T. Wheelwright, entitled, "A Child of the Century."

THE BROOKLYN MAGAZINE for February will be a very attractive number. It is withal one of our brightest magazines, and one of the cheapest: 30 cents per number, or \$2.00 per year. *The Brooklyn Magazine*, 123 Pearl St., New York.

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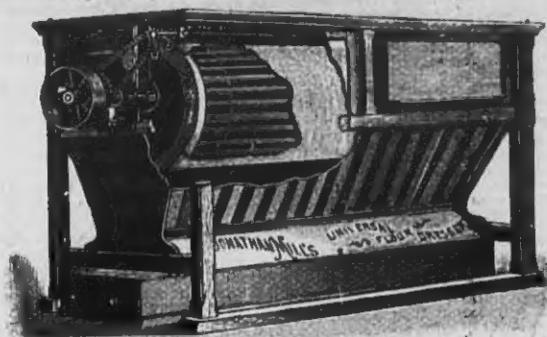
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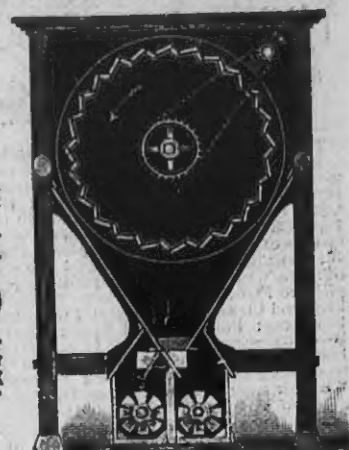
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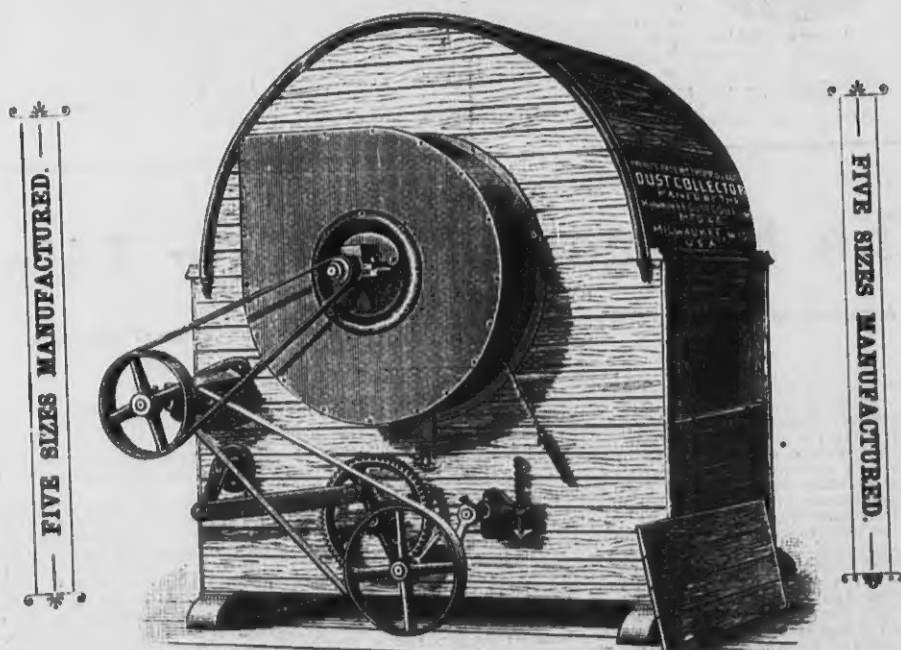
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